DOCUMENT RESUME

ED 451 435 CG 030 800

TITLE	Child and Adolescent Violence Research at the National Institute of Mental Health.
INSTITUTION	National Inst. of Mental Health (DHHS), Bethesda, MD.
REPORT NO	NIH-00-4706
PUB DATE	2000-04-00
NOTE	12p.
AVAILABLE FROM	National Institute of Mental Health, 6001 Executive Blvd., Rm. 8184, MSC 9663, Bethesda, MD 20892-9663. Tel: 301-443-4513; Tel: 301-443-8431 (TTY); Fax: 301-443-4279; e-mail: nimhinfo@nih.gov; Web site: http://www.nimh.nih.Governing.
PUB TYPE	Reports - Evaluative (142)
EDRS PRICE	MF01/PC01 Plus Postage.
DESCRIPTORS	*Adolescents; Aggression; *Antisocial Behavior; *Behavior Problems; *Depression (Psychology); Emotional Problems; Influences; Intervention; Mental Health; *Peer Influence; Research; Violence
IDENTIFIERS	Nurturance

ABSTRACT

An assessment was taken by the National Institute of Mental Health (NIMH) on violent behavior among adolescents in the United States to guide research towards areas that require intervention. The NIMH gathered information on the risk factors, experiences, and processes related to the development of aggressive, antisocial, and violent behavior problems in children and adolescents. The development of behavior problems can be explained as a dynamic interaction between children's predisposition and various influences on their lives (family, peer, and school/community). Being at risk does not necessary doom a child to become violent. There is strong evidence for the occurrence of two or more syndromes or disorders among children with behavioral and emotional problems. Promising interventions are discussed that prevent and treat adolescent depression, which often coexists with behavior problems. The research points to the importance of a nurturing social environment, good early education, and success in academic areas. It suggests that the influence of peers, both positive and negative, is of critical importance and that grouping or housing troubled youth together may be the wrong approach. It concludes that there are no quick and inexpensive approaches to solving youth problems. (JDM)

Reproductions supplied by EDRS are the best that can be made
from the original document.

ED 451 435

Child and Adolescent Violence Research

At the National Institute of Mental Health

NIMH
National Institute of Mental Health

FACT SHEET

Office of Communications
and Public Liaison
6001 Executive Blvd.,
Room 8184, MSC 9663
Bethesda, MD 20892-9663
Phone: 301-443-4513
TTY: 301-443-8431
FAX: 301-443-4279
E-mail: nimhinfo@nih.gov
Website:
www.nimh.nih.Governing

April 2000

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)
☐ This document has been reproduced as received from the person or organization originating it.
☐ Minor changes have been made to improve reproduction quality.
• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

This is a time of high concern about violent behavior by young people. As a nation, we are in a period of reflection as to what can be done to stem this tide. The NIMH is currently involved in a "taking stock" activity to guide research into the areas where questions exist, with a special emphasis on appropriate targets for intervention. Youth violence is a complex problem and will require complex solutions. There is a natural desire to develop a "child violence" profile, but this not only risks a negative label on a child, but also risks missing the quiet, troubled child with a series of problems, who may actually become the most violent.

The NIMH has gathered information about risk factors, experiences, and processes that are related to the development of aggressive, antisocial, and violent behavior, including mental health problems, particularly depression, associated with childhood and adolescence. NIMH research points to the importance of a nurturing social environment in childhood, good early education and success in academic areas. It has been learned that the influence of peers, whether positive or negative, is of critical importance. Research also suggests that current policies and approaches grouping or housing troubled adolescents together may be the wrong approach, and it is clear that there are no quick, inexpensive answers. Each research finding suggests possible interventions that in turn need to be studied. Some proposed interventions have been found to actually increase the negative behavior and so due care must be taken.

An NIMH Snapshot

The National Institute of Mental Health (NIMH) is one of 25 components of the National Institutes of Health (NIH), the Government's principal biomedical and behavioral research agency. NIH is part of the U.S. Department of Health and Human Services.

NIMH Mission

To reduce the burden of mental illness through research on mind, brain, and behavior.

How Does the Institute Carry Out Its Mission?

- NIMH conducts research on mental disorders and the underlying basic science of brain and behavior.
- NIMH supports research on these topics at universities and hospitals around the United States.
- NIMH collects, analyzes, and disseminates information on the causes, occurrence, and treatment of mental illnesses.
- NIMH supports the training of more than 1,000 scientists to carry out basic and clinical research.
- NIMH communicates information to scientists, the public, the news media, and primary care and mental health professionals about mental illnesses, the brain, mental health, and research in these areas.

CG030800

BEST COPY AVAILABLE

This overview highlights what is known about risk factors for the development of antisocial behavior, and the often underutilized early prevention and intervention strategies.

Risk Factors

Tragic events like the recent shootings at Columbine High School capture public attention and concern, but are not typical of youth violence. Most adolescent homicides are committed in inner cities and outside of school. They most frequently involve an interpersonal dispute and a single offender and victim. On average, six or seven youths are murdered in this country each day. Most of these are inner-city minority youths. Such acts of violence are tragic and contribute to a climate of fear in schools and communities.

Research findings are beginning to identify factors in the development of aggressive and antisocial behavior from early childhood to adolescence and into adulthood. Prospective longitudinal and experimental studies have identified major correlates for the initiation, escalation, continuation, and cessation of serious violent offending.

Many studies indicate that a single factor or a single defining situation does not cause child and adolescent antisocial behavior. Rather, multiple factors contribute to and shape antisocial behavior over the course of development. Some factors relate to characteristics within the child, but many others relate to factors within the social environment (e.g., family, peers, school, neighborhood, and community contexts) that enable, shape, and maintain aggression, antisocial behavior, and related behavior problems.

The research on risk for aggressive, antisocial and violent behavior includes multiple aspects and stages of life, beginning with interactions in the family. Such forces as weak bonding, ineffective parenting (poor monitoring, ineffective, excessively harsh, or inconsistent discipline, inadequate super-vision), exposure to violence in the home, and a climate that supports aggression and violence puts children at risk for being violent later in life. This is particularly so for youth with problem behavior, such as early conduct and attention problems, depression, anxiety disorders, lower cognitive and verbal abilities, etc. Outside of the home, one of the major factors contributing to youth violence is the impact of peers. In the early school years, a good deal of mild aggression and violence is related to peer rejection and competition for status and attention. More serious behavior problems and violence are associated with smaller numbers of youths who band together because they are failing academically and are often rejected by other youth. Successful early adjustment at home increases the likelihood that children will overcome such individual challenges and not become violent. However, exposure to violent or aggressive behavior within a family or peer group may influence a child in that direction.

• Types and Severity of Antisocial Behavior

The types and severity of antisocial behaviors exhibited by youths vary greatly and include lying, bullying, truancy, starting fights, vandalism, theft, assault, rape, and homicide. As a rule, the older the age of onset, the fewer the number of antisocial youths who will engage in seriously aggressive and violent behavior.
Longitudinal studies show that many children who engage in antisocial behavior in childhood continue to do so at least through adolescence.
Longitudinal research has identified types of youth who progress to adolescent antisocial

behavior, multiple pathways through which it develops and persists, and the multiple factors that shape this risk. This research Has identified two types of life course trajectories: *life course persistent*, which is viewed as a form of psychopathology, and *adolescence limited*, which is identified only in select social situations. The distinction between these two types of individuals is very useful, both as a way of thinking about developmental knowledge and as a tool for targeting the right interventions for antisocial youth.

Research in this area has generated evidence for this way of thinking about how adolescents grow and has investigated the relationship between adolescent problem behavior and cognitive deficits. *Life course persistent* individuals begin antisocial behavior early in childhood and continue into adulthood, after their *adolescence limited* counterparts stop. *Life course persistent* behavior has been correlated with neurological deficits and pathological behaviors, (e.g., impulsivity) which are exacerbated when they are combined with stressful home situations. In one study of 13 year olds, individual differences—such as deficits in sensory, perceptual, and cognitive abilities, including the use of language—were shown to predict participation in crime five years later. For instance, boys with poorer verbal functioning initiated delinquent behavior at younger ages. It has also been demonstrated that boys with poorer neuropsychological functioning, especially verbal functioning at age 13, were more likely to have committed crimes at age 18 than were their counterparts with better neuropsychological functioning at age 13.

- **Gender Differences**

From about 4 years of age on, boys are more likely than girls to engage in both aggressive and nonaggressive antisocial behavior. Much remains to be learned about the causes of gender differences in antisocial behavior, but based on what is known, it is suspected that antisocial behavior might need to be defined somewhat differently for the two genders. In contrast to overt aggression, which inflicts harm through physical damage or the threat of such damage more common in boys, social aggression by girls harms through damage to peer relationships; study of this form of aggression may be crucial to understanding the aggressive development of girls. The NIMH is currently funding research on the antecedents and consequences of aggression for girls, as well as for boys, knowledge that can be used to develop empirically-based interventions for aggressive children of both sexes.

- **Antisocial Behavior Co-Occurring with Child Psychopathology**

There is strong evidence for the co-occurrence of two or more syndromes or disorders among children with behavioral and emotional problems. Many people think that children either act out or turn their feelings inward, but the truth is more complex. The obviously angry adolescent has other conditions such as anxiety disorders and depression (as seen in the quiet withdrawn young person) more often than would occur by chance. Research in this area indicates that very young children with conduct problems and anxiety disorders or depression display more serious aggression than youths with only conduct problems. It is not known whether depression precipitates acting out, whether impairments and predispositions for acting out lead to depression, or whether there are underlying causal factors that are responsible for the joint display of such problems.

It is very common for youth with conduct problems to also display symptoms of attention deficit hyperactivity disorder (ADHD), the most commonly diagnosed behavioral disorder of childhood. The diagnosis is made by the presence of persistent age-inappropriate inattention and impulsivity, often coexisting with hyperactivity. This co-occurrence is often associated with an early onset of aggression and impairment in personal, interpersonal, and family functioning. Furthermore, academic underachievement is common in youth with early onset conduct problems, ADHD, and adolescents who display delinquent behavior.

- **Individual Liability and Genetic Factors**

Identifying numerous genes that may play a role in any complex disorder is a formidable task and is only the first step in understanding how a gene or genes affect an individual. Genes act by producing specific proteins that may contribute to a particular biological or behavioral trait. Every human carries between 80,000 and 100,000 genes; the products of these genes – acting together and in combination with the environment – help shape every human characteristic. It has become clear that the genetics of vulnerability to certain behaviors or mental disorders is complex. We still do not know how many different genes might contribute to vulnerability for any personality trait or specific mental disorder, nor do we know the nature of the nongenetic effects (such as environmental factors) that convert vulnerability into illness.

Our understanding of the nature of genetic influences on antisocial behavior is similarly incomplete. However, research on differences in the magnitude of genetic and environmental influences on different kinds of conduct problems is providing a key to understanding the developmental origins of antisocial behavior. Many twin and adoption studies indicate that child and adolescent antisocial behavior is influenced by both genetic and environmental factors, suggesting that genetic factors directly influence cognitive and temperamental predispositions to antisocial behavior. These predisposing child factors and socializing environments, in turn, influence antisocial behavior.

Research suggests that for some youth with early onset behavior problems, genetic factors strongly influence temperamental predisposition, particularly oppositional temperament, which can affect experiences negatively. When antisocial behavior emerges later in childhood or adolescence, it is suspected that genetic factors contribute less, and such youths tend to engage in delinquent behavior primarily because of peer influences and lapses in parenting. The nature of the child's social environment regulates the degree to which heritable early predisposition results in later antisocial behavior. Highly adaptive parenting is likely to help children who may have a predisposition to antisocial behavior. Success in school and good verbal ability tend to protect against the development of antisocial behavior, pointing to the importance of academic achievement.

- **Parent and Family Factors**

Research has demonstrated that youths who engage in high levels of antisocial behavior are much more likely than other youths to have a biological parent who also engages in antisocial behavior. This association is believed to reflect both the genetic transmission of predisposing temperament and the maladaptive parenting of antisocial parents

The importance of some aspects of parenting may vary at different ages. For example, inadequate supervision apparently plays a stronger role in late childhood and adolescence than in early childhood. There is evidence from many studies that parental use of physical punishment may play a direct role in the development of antisocial behavior in their children. In longitudinal studies, higher levels of parental supervision during childhood have been found to predict less antisocial behavior during adolescence. Other researchers have observed that parents often do not define antisocial behavior as something that should be discouraged, including such acts as youths bullying or hitting other children or engaging in minor delinquent acts such as shoplifting.

Research examining the mental health outcomes of child abuse and neglect has demonstrated that childhood victimization places children at increased risk for delinquency, adult criminality, and violent criminal behavior. Findings from early research on trauma suggest that traumatic stress can result in failure of systems essential to a person's management of stress response, arousal, memory, and personal identity that can affect functioning long after acute exposure to the trauma has ended. One might expect that the consequences of trauma might be even more profound and long lasting when they influence the physiology, behavior, and mental life of a developing child or adolescent.

• Peer Influences

Antisocial children with earlier ages of onset tend to make friends with children similar to themselves. Consequently, they reinforce one another's antisocial behavior. Children with ADHD are often rejected due to their age-inappropriate behavior, and thus are more likely to associate with other rejected and/or delinquent peers. The influence of delinquent peers on later onset antisocial behavior appears to be quite strong. Association with antisocial peers has been shown to be related to the later emergence of new antisocial behavior during adolescence among youths who had not exhibited behavior problems as children.

Less parental supervision allows youths to spend more time with delinquent peers. Thus, improving parental supervision may be an important way to reduce the effects of delinquent peer influence. Ongoing research is examining how neighborhood effects on antisocial behavior are mediated by the willingness of neighbors to supervise youths and possibly reduce the likelihood of association with delinquent peers in the neighborhood.

•• Socioeconomic Factors

An inverse relationship of family income and parental education with antisocial behavior has been found in many population-based studies. Across gender and ethnicity, much of the inverse relationship between family income and antisocial behavior is accounted for by less parental monitoring at lower levels of socioeconomic status.

Prevention and Intervention

In recent years, several effective programs and strategies to prevent youth violence have been developed and tested.

• Pre-School Children

The Nurse Home Visitation Program, partly funded by the NIMH, is a 20-year model of research in which nurses visit mothers beginning during pregnancy and continuing through their child's second birthday to improve pregnancy outcomes, promote children's health and development, and to strengthen families' economic self-sufficiency.

This program, currently underway in New York, Colorado, and Tennessee, appears to benefit high-risk families, particularly low-income unmarried women, reducing rates of childhood injury, child abuse and neglect, and other risk factors for early-onset antisocial behavior in children. Long-term follow-up of the children in two of the studied locations indicated that by age 15, they had fewer behavioral problems related to the use of drugs and alcohol, fewer instances of running away, fewer arrests and convictions, and fewer sexual partners, as compared to counterparts randomly assigned to receive comparison services.

Hawaii's Healthy Start Program is designed to prevent child abuse and neglect and promote child health and development in newborns of families classified as highly stressed and/or at risk for child abuse and neglect. Following a successful pilot study, this program is now operating statewide, and has inspired adaptations in other locations. The program uses a home visitation model to help family members cope with the challenges of child rearing, to teach effective parenting and problem-solving skills, and to link families to necessary services such as childcare, income and nutritional assistance, and pediatric primary care. After two years of service, mothers reported improved parenting efficacy, decreased parenting stress, more use of non-violent discipline, better linkage with pediatric care, as well as decreased injury due to partner violence in the home, as compared with a control group.

The Administration on Children, Youth and Families (ACYF) and the NIMH have awarded several research grants as the core component of a new young children's mental health research initiative designed to develop and test applications of theory-based research or state-of-the-art techniques for the prevention, identification and/or treatment of children's mental health disorders within a Head Start context. Among these are projects to develop screening tools for identifying behavior problems in preschool children, to test the effectiveness of research-based classroom interventions for very young children with serious disruptive behavior problems, and to assess the mental health needs of this vulnerable population.

- **School-Age Children**

Recent studies have indicated that between 70 and 80 percent of children with diagnosable mental disorders who receive services are served within the school system, primarily by school psychologists and guidance counselors. The NIMH has supported many projects that seek to develop, establish, and improve school-based mental health service delivery systems. These projects range from broad programs intended to enhance the social and problem solving skills of all students, to highly specific programs designed to treat children already showing symptoms of mental health problems. Programs also range from those that intervene at multiple levels, including the child, parents, peers, and teachers, to those that focus solely on the child. For example, research is aimed at developing techniques for teachers to manage disruptive students. Several strong, multi-faceted programs that aim to prevent severe and persistent conduct problems in children have been launched.

The Families and Schools Together (FAST) Track Program is a multi-faceted, multi-year program designed for aggressive children in kindergarten starting at age 6. A four-site study in North Carolina, Pennsylvania, Tennessee, and Washington, the program involves working with the child, the family in their home, and school system, including teachers. Preschool children at high risk were identified at 55

different schools. These children were randomly assigned for intervention or no intervention. The children initially enrolled in the study are now young adolescents. An evaluation of FAST TRACK indicated that by the third grade, students who took part in the program showed less oppositional and aggressive behavior and were less likely to require special education services than students who did not take part.

The Linking the Interests of Families and Teachers (LIFT) Program (in Oregon) is a 10-week intervention created for children and families who are at risk for the development of conduct problems due to residence in neighborhoods characterized by high rates of juvenile delinquency. The LIFT Program is a multi-component intervention that includes parent training, social skills training, a playground behavioral program, and regular communication between teachers and parents. Following program participation, students engaged in significantly less aggressive behaviors on the playground, parents demonstrated fewer negative behaviors during family problem-solving activities, and teachers reported improved student social behavior and peer interactions. Three years following the intervention, students who received the program were less likely to engage in consistent alcohol use, less likely to have troublesome friends, and less likely to have been arrested for the first time than students who did not receive the program. Students were also less likely to demonstrate inattentive, impulsive, overactive, and disruptive behaviors in the classroom than students who did not receive the program.

Programs have also been initiated which seek to enhance the skills and knowledge of all children in order to decrease their risk of future emotional and behavioral problems. NIMH has sponsored the Promoting Alternative Thinking Strategies (PATHS) Curriculum, based in Washington state, which teaches children about self-control, understanding emotions, and problem solving. The PATHS curriculum has been evaluated using students in both regular education and special education classrooms. Students who received the PATHS curriculum demonstrated better knowledge of emotions than children who did not receive the curriculum. This emotional knowledge is thought to underlie the development of necessary social skills such as friendship development and maintenance, anger management, conflict resolution, and appropriate problem solving.

- **Development of Depression**

NIMH research is investigating promising and successful interventions to prevent and treat adolescent depression, which often coexists with conduct problems—a combustible mix that can result in violence, both against self and others. Several NIMH projects focus on determining whether cognitive therapy techniques that have been found to be effective for treating depression in adults can be applied to prevent depression in adolescents. Such research tests, among other things, the effects of after-school programs, which are based on cognitive therapy and social problem-solving techniques and delivered by school staff. Findings from this type of research are mixed, with more intensive interventions appearing to have at least initial effects of reducing or preventing depressive symptoms. Additional work is needed to determine the optimal length and intensity of interventions as well as approaches for sustaining their effects.

For example, the Coping with Stress Course was designed to prevent the onset of depressive disorders among adolescents who report high levels of depressive symptoms. With programs in Oregon, Maryland, and Ohio, this group course teaches adolescents cognitive skills to identify and challenge negative or irrational thoughts and beliefs that may contribute to the development of depression. Evaluation showed that the course was successful in reducing the number of cases of depressive disorder among adolescents at risk. In fact, twice as many students in the no-treatment group developed a depressive disorder than in the treatment group. Students in the treatment group also reported fewer depressive symptoms and better adjustment than students in the untreated group. However, with the passage of time, differences between the treatment and no-treatment groups decreased.

Other projects are testing the effects of pharmacological and psychosocial treatments for youth with depression (aged 12-17 years). Going beyond the effects of treatment on symptoms of depression, this research also focuses on the impact of the interventions on functioning in school, at home, and in the community.

• Effective Interventions for Delinquent Youth

It is important in evaluating interventions for delinquents to document what has not worked, as well as what has. For example, group-home approaches that pool delinquent youth together will, in some cases, exacerbate and escalate youth violence. Even promising interventions for delinquent youth can be overwhelmed by the negative effect of grouping such youth together.

This research finding has led to two highly successful treatment models for serious offending delinquents. One is multisystemic therapy (MST), in which specially trained therapists work with the youth and family in their home, with a particular focus on changing the peers with whom the youths associate. MST therapists identify strengths in the families and use these strengths to develop natural support systems and to improve parenting. Specific interventions are individualized to the family and address the needs of the child, family, school, peers, and neighborhood. Multiple, rigorous outcome evaluations have demonstrated the efficacy of this approach, and an independent cost-benefit analysis found that this model had a very high cost-benefit payoff. Although a number of states are now attempting to implement this model, the majority of programming for delinquent youth is based on models that bring together youth with problem behavior, rather than target separation of youth from problem peers.

The other model is Therapeutic Foster Care. This model offers a community-based intervention for serious and chronic offending delinquents. Therapeutic foster parents are carefully selected and supported with research-based procedures for working with serious and chronic delinquents in their homes. Treatment typically lasts 6 to 7 months. This intervention results in fewer runaways and fewer program failures than the usual placement in group homes is less expensive, and is dramatically more effective in reducing delinquency than traditional group homes. The Foster Family-based Treatment Association, developed under NIMH leadership, now has some 400 members across the U.S. who promote the use of this research-based and effective model.

Conclusion

As important as the problem of violence is, there will be no quick, inexpensive, and fail-safe solution. Recent years have witnessed a strong growth in our understanding of the risk factors and processes that contribute to and shape child and adolescent antisocial behavior. Yet gaps remain in our scientific understanding of how child, family, school/community, and peer factors interact, and which are the most appropriate targets for prevention and early intervention in different settings. We are also learning that being "at risk" does not doom any one child to become violent; conversely, the apparent absence of certain risk does not necessarily render any one child immune from problem behavior. The development of serious behavior problems is best understood as a dynamic interaction between child predispositions and various influences on children's lives (family, peer, and school/community) that change over critical periods of development.

Successful programs that produce long-term sustained effects may need to involve long-term intense interventions to target the multiple factors that can lead to negative outcomes such as family conflict, depression, social isolation, school failure, substance abuse, delinquency, and violence. The fundamental premise of some of these interventions—which separate youth with problem behaviors—challenges the policies, programs and procedures that currently bring problem youth together. Continued research is needed to determine the most appropriate targets for prevention and early intervention that will produce lasting change. Answers are emerging about which programs are most successful, but assessments need to be made about their costs, as well as if they will work for all groups of children and adolescents.

The NIMH is committed to encouraging and supporting this research, and has a long and enduring history of support for research and research training on violence. Throughout the 1950s, and early '60s, NIMH provided research and research training support that built much of the modern field of behavioral science, and much subsequent research on violence has built upon that foundation. In 1966, NIMH created a Center for Studies of Crime and Delinquency, which was the locus of pioneering research on aggressive, antisocial, and violent behavior and its consequences. NIMH-supported research has generated information needed to identify, treat, and prevent not only the *causes* of violent behavior but also the *effects* of violence on victims, for example, child abuse. Most recently, the NIMH has assumed a lead role, along with the Substance Abuse and Mental Health Services Administration and the Centers for Disease Control and Prevention, in developing a Surgeon General's report on the topic of youth violence. The NIMH believes that this report, as follow-up to the Surgeon General's Report on Mental Health, will be an effective and highly credible means of educating the public about the interaction of mental disorders and youth violence.

The Broad NIMH Research Program

Today, the NIMH mission encompasses the conduct and support of biomedical and behavioral research, and the translation of scientifically generated information into clinical applications. Increasingly, the public as well as health care professionals are recognizing these disorders as real and treatable medical illnesses of the brain. Still, more research is needed to examine in

greater depth the relationships among generic, behavioral, developmental, social and other factors to find the causes of these illnesses. NIMN is meeting this need through a series of research initiatives.

- **NIMH Human Genetics Initiative**

This project has compiled the world's largest registry of families affected by schizophrenia, manic-depressive illnesses, and Alzheimer's disease. Scientists are able to examine the genetic material of these family members with the aim of pinpointing genes involved in the diseases.

- **Human Brain Project**

This multi-agency effort is using state-of-the-art computer science technologies to organize the immense amount of data being generated through neuroscience and related disciplines, and to make this information readily accessible for simultaneous study by interested researchers.

- **Prevention Research Initiative**

Prevention efforts seek to understand the development and expression of mental illness throughout life so that appropriate interventions can be found and applied at multiple points during the course of illness. Recent advances in biomedical, behavioral, and cognitive sciences have led NIMN to formulate a new plan that marries these sciences to prevention efforts.

While the definition of prevention will broaden, the aims of research will become more precise and targeted.

More Than 2,000 Grants and Contracts

In total, NIMH supports more than 2,000 research grants and contracts at universities and other institutions across the nation and overseas. It also conducts basic research and clinical studies involving 9,000 patient visits per year at its own facilities on the National Institutes of Health campus in Bethesda, MD, and elsewhere. NIMH research projects focus on:

- Basic research on behavioral, emotion, and cognition to provide a knowledge base for a better understanding of mental illnesses
- basic sciences, including cellular and molecular Biology, developmental neurobiology, neurochemistry, neurogenetics, and neuropharmacology, to provide essential information about the anatomical and chemical basis of brian function and brain disorders
- interventions to treat, prevent, and reduce the frequency of mental disorders and their disabling consequences
- mental health services research, including mental health economics and improved methods of services delivery
- co-morbidity among mental disorders and with substance abuse and other medical conditions, such as depression and heart disease
- the prevelance of mental disorders
- risk factors for mental disorders
- differences in mental health and mental illness among special populations
- children and adolescents who suffer from or who are at risk for serious mental disorders and learning disabilities
- psychotherapies and pharmacotherapies for specific disorders

At the beginning of the 21st century, NIMH stands poised to surmount the burden, loss, and tragedy of mental illnesses that afflict millions of Americans.

VIOLENCE

For More Information About NIMH

The Office of Communications and Public Liaison carries out educational activities and publishes and distributes research reports, press releases, fact sheets, and publications intended for researchers, health care providers, and the general public. A publications list may be obtained by contacting:

Office of Communications and Public Liaison, NIMH
Information Resources and Inquiries Branch
6001 Executive Blvd., Room 8184,MSC 9663
Bethesda, MD 20892-9663
Phone: 301-443-4513
TTY: 301-443-8431
FAX: 301-443-4279
Mental Health FAX 4U: 301-443-5158
E-mail: nimhinfo@nih.gov
NIMH home page address:
www.nimh.nih.gov

- Information about research opportunities at the NIMH Intramural Research Program may be obtained from:

Office of the Scientific Director, NIMH
9000 Rockville Pike
Building 10, Room 4N224, MSC 1381
Bethesda, MD 20892-1831
Phone: 301-496-3501
FAX: 301-480-8348

- Information for scientists on NIMH grants and contracts programs, including grant application and review, Requests for Applications, Requests for Proposals, program announcements, research training and career development, small business programs, program analyses of NIMH extramural research grants and applications, access to NIH Grants policy, and other material may be obtained from the NIMH home page. http://www.nimh.nih.Governing

NIH PUBLICATION NO. 00-4706

APRIL 2000